REMARKS

Reconsideration of the pending application is respectfully requested on the basis of the following particulars.

1. Rejection of claims 1-9 under 35 U.S.C. § 112 first paragraph

This rejection is respectfully traversed on the basis that the Office action has not met the burden required to establish a *prima facie* case of non-enablement.

The proper test to determine enablement is whether any person skilled in the art can make and use the invention without undue experimentation (MPEP §2164.01; *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988)). The initial burden is on the Patent Office to establish a reasonable basis to question the enablement provided by the specification (MPEP 2164.04; *In re Wright*, 999 F.2d 1557, 1562 (Fed. Cir. 1993)).

There are at least eight factors that must be analyzed to make a finding that the disclosure fails to satisfy the enablement requirement and whether any necessary experimentation is "undue." (MPEP §2164.01(a); *In re Wands*, 858 F.2d at 737 (Fed. Cir. 1988)). While it is not necessary to discuss every factor, the language of the rejection should focus on the factors, reasons, and *evidence* that lead the Office "to conclude that the specification fails to teach how to make and use the claimed invention without undue experimentation" (MPEP §2164.04, underlining in original). The analysis can be done "by making specific findings of fact, supported by evidence, and then drawing conclusions based on these findings of fact" (MPEP §2164.04). In a situation where the Office alleges there is missing information in the specification, the Office "should specifically identify what information is missing and why one skilled in the art could not supply the information without undue experimentation" (MPEP §2164.04).

In the pending case, the rejection states that there is no explanation of how the inner engaging member 38 is "radially moveable" found in the description.

There is no analysis or findings of fact relating to any of the eight factors, for example the level of ordinary skill in the art, which are used to make a finding of

undue experimentation. The rejection merely points out what is allegedly missing, provides no evidentiary findings required to make a *prima facie* case of undue experimentation, and asserts that the claims are not enabled.

This analysis is improper and conclusory and fails to meet the burden required by the Office to establish a *prima facie* case of non-enablement.

Further, explanation of how the inner engaging member 38 is "radially movable" can be found at least on page 3, lines 23-28, page 5, lines 14-23, page 8, line 25 through page 9, line 6, page 9, lines 15-21, page 14, lines 12-18, and page 19, lines 2-10 of the specification as originally filed.

In particular, in at least the embodiment shown in Figs. 1A and 2, an annular gap 21 is provided between the pull rod 18 and the drive member 11, and the pull rod 18 rests upon the cover bolt 26, the weight thereof balanced by the elastic member 27, such that the pull rod 18 can move radially from side to side to accommodate misalignment between the pull rod 18 and the engaging hole 3. Since in this embodiment the inner engaging member 38 is in contact with the pull rod 18, it will also move radially from side to side along with the pull rod 18. This movement is further enabled by the annular gap 22 between the inner engaging member 38 and the housing 8 (see in particular Fig. 2). Thus, the inner engaging member 38 can clearly move radially from side to side with respect to the first block 1, as recited in claim 1.

Further, in the embodiment shown in Fig. 11, an annular gap 90 is provided between the inner engaging member 38 and the pull rod 18, such that the inner engaging member 38 can move radially from side to side to accommodate misalignment between the inner engaging member 38 and the engaging hole 3. Thus, the inner engaging member 38 can move radially from side to side with respect to the first block 1.

In view of the above discussion, it is clear that the subject matter of pending claim 1 is enabled to a person having ordinary skill in the art, without undue experimentation.

Accordingly, since the Office action has failed to establish a *prima facie* case of lack of enablement, and since the disclosure provides a description sufficient to allow a person having ordinary skill in the art to make and use the embodiment recited in claim 1, withdrawal of this rejection is respectfully requested.

2. Rejection of claims 1, 4-6, 8, and 9 under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent no. 6,095,509 (*Yonezawa*, the '509 patent) in view of U.S. patent no. 4,059,036 (*Hartley*) in view of U.S. patent no. 4,767,125 (*Barry et al.*) and further in view of U.S. patent no. 6,604,738 (*Haruna*)

Reconsideration of this rejection is respectfully requested on the basis that the rejection fails to establish a *prima facie* case of obviousness with respect to pending claim 1. The remaining claims depend from claim 1, and are therefore patentable as containing all of the recited elements of claim 1, as well as for their respective recited features.

By way of review, the embodiment of pending claim 1 requires a clamping apparatus having a first block for supporting a second block thereon. A drive member is axially movably inserted into the first block and a pull rod extending beyond a support surface of the first block is connected to the drive member. An inner engaging member is axially movably arranged on the outer periphery of the pull rod. The inner engaging member is also adapted to be radially moveable with respect to the first block. A plurality of outer engaging members is arranged on an outer periphery of the inner engaging member. The outer engaging members are adapted to wedge-engage with the inner engaging member from a leading end side. An output portion of the pull rod is connected to the outer engaging members.

By way of the recited configuration, the embodiment of pending claim 1 requires the following three elements to be arranged in the order recited in a radial direction from a center to a periphery. In particular, the pull rod (18) is positioned in the center, the inner engaging member (38) is positioned on the outer periphery of the pull rod (18), and the plurality of outer engaging members (39) is positioned on an

outer periphery of the inner engaging member. The inner engaging member (38) is axially movably arranged on the outer periphery of the pull rod (18), and is further adapted to be radially movable with respect to the first block (1).

It is respectfully submitted that the proposed combination of the '509 patent and the *Hartley*, *Barry*, and *Haruna* patents fails to disclose at least an inner engaging member that is axially movably arranged on an outer periphery of a pull rod, a plurality of outer engaging members arranged on an outer periphery of an inner engaging member, and an output portion of a pull rod connected to the outer engaging members, all as required by pending claim 1.

Turning to the '509 patent, a clamping apparatus having a pull rod (12) is disclosed. An annular collet member (13) is vertically movably arranged around the outer periphery of the pull rod (col. 4, lines 28-29). A peripheral wall of the collet (13) includes a vertical slit (25) to allow contraction and expansion of the collet (col. 4, lines 30-31). An upper half portion of the collet member (13) forms an engaging member (14) (col. 4, lines 31-32).

The upper portion of the pull rod (12) of the '509 patent is provided with a tapered outer peripheral surface (12a) that narrows downwardly (col. 4, lines 22-25). The engaging member (14) of the collet (13) has a tapered inner peripheral surface (14a) externally fitted onto the tapered outer peripheral surface (12a) of the pull rod (12) (col. 4, lines 32-35). In other words, the pull rod (12) is configured to wedge-engage the engaging member (14) from the leading end of the engaging member (14). The collet (13) is further pushed up by a push spring (27) and an annular plate (28) (col. 4, lines 38-40).

With this configuration, when the pull rod (12) is moved axially downwards, the tapered outer peripheral surface (12a) causes the engaging member (14) to expand radially outward to engage an engaging hole (2) in an object (1) to be fixed, and to be displaced axially downwards against the push spring (27) and an annular plate (28) (col. 1, lines 39-45). In this manner, the object (1) to be fixed is also pulled axially downwards (col. 1, lines 45-46; col. 2, lines 24-27).

As apparently acknowledged in the Office action on page 2, the '509 patent fails to disclose a plurality of outer engaging members arranged on an outer periphery of an inner engaging member and adapted to wedge-engage with the inner engaging member. Further, since no outer engaging members are described as being arranged on an outer periphery of an inner engaging member and adapted to wedge-engage with the inner engaging member, the '509 patent also fails to disclose a plurality of outer engaging members arranged on an outer periphery of the inner engaging member, and an output portion of a pull rod connected to the outer engaging members, all as required by pending claim 1.

The Office action turns first to the *Hartley* patent to cure these deficiencies of the '509 patent.

The *Hartley* patent discloses an internal shearing member used to support a hollow body (col. 1, lines 4-5). The shearing member includes two identical split rings (1, 2) having a cylindrical outer surface and a frusto-conical inner surface (col. 2, lines 30-32). The rings (1, 2) are coaxially mounted on a pair of plugs (4, 5), which each have outer frusto-conical surface portions that correspond to the inner surface of the rings (1, 2) (col. 2, lines 32-35). The plugs (4, 5) are carried on the end of a mandrel that includes a hollow tube (6) and a rod (7) inserted into the bore of the tube (6) (col. 2, lines 36-41).

The first, outer plug (4) is screwed onto the end of the rod (7), and is thus axially fixed with respect to the rod (7) (col. 2, lines 41-45). The second, inner plug (5) has a bore that is the same inner diameter as the tube (6) and a threaded counterbore (9) that screws onto the end of the tube (6) (col. 2, lines 45-48). As will be understood by a skilled artisan, although the rod (7) is movable within the bore of the plug (5), the inner plug (5) of the *Hartley* patent remains stationary with respect to the rod (7). When the rod (7) is drawn towards the tube (6), the outer plug (4) is drawn towards the inner plug (5) and the split rings (1, 2) are forced to expand so that the outer surfaces thereof engage an inner surface of a hollow body to be supported

(col. 2, lines 54-56). Shoulders (16, 17) provide stops that define the maximum expansion of the rings (1, 2) (col. 3, lines 3-8)

Neither of the split rings (1, 2) of the *Hartley* patent can be considered to be connected to an output portion of the rod (7), since each of the split rings (1, 2) can freely move on the respective plug portions (4, 5). The *Hartley* patent fails to disclose a plurality of outer engaging members as required by pending claim 1.

A similar configuration is described with respect to the embodiment shown in Fig. 3 of the *Hartley* patent.

In comparison to the elements recited in pending claim 1, the rod (7) of the *Hartley* patent may correlate to the pull rod recited in claim 1. However, there is no corresponding inner engaging member disclosed in the *Hartley* patent that is axially movable on an outer periphery of the rod (7). As discussed above, the outer plug (4) is fixedly screwed onto the end of the rod (7). Thus, the outer plug (4) of the *Hartley* patent cannot be considered to be an inner engaging member that is axially movably arranged on an outer periphery of a pull rod as required by pending claim 1.

Similarly, the inner plug (5) of the *Hartley* patent remains stationary while the rod (7) is drawn through the bore of the inner plug (5). Thus, the inner plug (5) of the *Hartley* patent cannot be considered to be an inner engaging member that is axially movably arranged on an outer periphery of a pull rod as required by pending claim 1.

Further, since the second ring (2) is the only ring disclosed in the *Hartley* patent that is adapted to wedge engage the inner plug (5) from the leading end side, the second ring (2) is the only ring which may be considered to correspond to an outer engaging member as required by pending claim 1.

Therefore, a skilled artisan would have to provide the second ring (2) and the inner plug (5) of the *Hartley* patent to the clamp of the '509 patent in order to have an outer engaging portion that is adapted to wedge engage an inner engaging portion from the leading end side, as is required by pending claim 1.

The addition of such structure alone to the clamp of the '509 patent would be insufficient to create a proper clamp mechanism for the following reasons, and thus a skilled artisan would not have made such an alteration. Further, even if such an alteration was made, the proposed combination would still fail to disclose every feature of pending claim 1.

As discussed above, the clamping structure of the '509 patent functions such that the engaging member (14) moves axially downwards when the pull rod (12) is moved axially downwards in order to draw the object to be clamped via the wedge-engagement from the leading end of the engaging member (14) of the tapered surfaces (12a, 14a) of the pull rod (12) and the engaging member (14).

Replacement of the pull rod (12) and the engaging member (14) of the '509 patent with the rod (7), the plug (5), and the split ring (2) of the *Hartley* patent, without more, would destroy the clamping ability of the clamping apparatus of the '509 patent.

This is because in order for the split ring (2) to expand to contact an object, the structure requires the plug (4) and the split ring (1) of the *Hartley* patent, in addition to the rod (7), the plug (5), and the split ring (2) of the *Hartley* patent, so that the movement of the rod (7) can be transmitted via the plug (5) and the split ring (1) to cause the split ring (2) to expand.

Accordingly, if a skilled artisan were to modify the '509 patent with just the rod (7), the plug (5), and the split ring (2) of the *Hartley* patent, the split ring (2) would not expand to engage an object to be clamped, and thus the clamping function of the '509 patent would be destroyed.

If all of the rod (7), the plugs (4, 5), and the split rings (1, 2) of the *Hartley* patent were added to the clamp of the '509 patent, the proposed combination would still fail to disclose every feature of pending claim 1.

In particular, since the plug (5) of the *Hartley* patent must remain stationary with respect to the rod (7) of the *Hartley* patent in order for the rings (1, 2) to expand,

and since the plug (5) would be required to correspond to an inner engaging member as claimed, it can be seen that the proposed combination of the '509 patent and the *Hartley* patent fails to disclose an inner engaging member that is axially movably arranged on an outer periphery of the pull rod, as is required by pending claim 1.

Further, since as discussed above, neither of the rings (1, 2) of the *Hartley* patent are connected to an output portion of the rod (7) of the *Hartley* patent, the proposed combination of the '509 patent and the *Hartley* patent fails to disclose a plurality of outer engaging members that are connected to an output portion of a pull rod, as is required by pending claim 1.

While the *Barry* patent does appear to disclose a plurality of expansion inserts (37) (col. 3, lines 3-7), the *Barry* patent does not disclose structure sufficient to overcome the above noted deficiencies in the proposed combination of the '509 patent and the *Hartley* patent.

Similarly, while the *Haruna* patent does appear to disclose means for cleaning the fitting surfaces of a clamping apparatus (col. 6, lines 12-13), the *Haruna* patent does not disclose structure sufficient to overcome the above noted deficiencies in the proposed combination of the '509 patent and the *Hartley* patent.

Accordingly, in view of the above discussion, a skilled artisan would not have replaced the pull rod and engaging member of the '509 patent with the plugs and split rings of the *Hartley* patent, and even if such a combination were made, the proposed combination would fail to disclose every feature of pending claim 1, and these deficiencies are not overcome by the disclosures of the *Barry* patent and the *Haruna* patent. Therefore, a *prima facie* case of obviousness cannot be maintained with respect to pending claim 1, and withdrawal of this rejection is respectfully requested.

As mentioned above, applicants submit that independent claim 1 is patentable and therefore, claims 4-6, 8, and 9, which depend from claim 1, are also considered to be patentable as containing all of the elements of claim 1, as well as for their respective recited features.

3. Rejection of claims 2, 3, and 7 under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent no. 6,095,509 (*Yonezawa*, the '509 patent) in view of U.S. patent no. 4,059,036 (*Hartley*) in view of U.S. patent no. 4,767,125 (*Barry et al.*) in view of U.S. patent no. 6,604,738 (*Haruna*) and further in view of U.S. patent no. 6,024,354 (*Yonezawa*, the '354 patent)

Reconsideration of this rejection is respectfully requested on the basis that the rejection fails to establish a *prima facie* case of obviousness with respect to claim 1, as discussed in detail above, from which claims 2, 3, and 7 depend, and the '354 patent fails to provide for the shortcomings of the proposed combination of the '509 patent and the *Hartley*, *Barry*, and *Haruna* patents, as discussed above in detail.

Accordingly, as mentioned above, applicants submit that independent claim 1 is patentable and therefore, claims 2, 3, and 7, which depend from claim 1, are also considered to be patentable as containing all of the elements of claim 1, as well as for their respective recited features, and thus, withdrawal of this rejection is respectfully requested.

4. Conclusion

In view of the foregoing remarks, it is respectfully submitted that the application is in condition for allowance. Accordingly, it is respectfully requested that every pending claim in the present application be allowed and the application be passed to issue.

If any issues remain that may be resolved by a telephone or facsimile communication with the applicants' attorney, the examiner is invited to contact the undersigned at the numbers shown below.

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